REMARKS

No new matter has been added. The Applicant requests again entry of the foregoing amendment prior to examination of the application on the merits.

Respectfully submitted,

Brick G. Power
Registration No. 38,581
Attorney for Applicant
TRASKBRITT
P. O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: (801) 532-1922

Date: January 16, 2001

BGP/df/dp

CLAIMS

What is claimed is:

1. (Amended) A method of molding a semiconductor assembly in a mold cavity of a transfer mold comprising:

providing at least one substrate having at least one surface in said mold cavity; and

introducing a flowable material onto said at least one surface of said at least one substrate in a substantially vertical direction in said mold cavity.

2. (Amended) The method according to claim 1, further comprising:

positioning said at least one substrate in at least one cavity of said transfer mold, said transfer mold having said at least one cavity substantially vertically oriented, said transfer mold including at least one gate at a lower portion of said at least one cavity and at least one vent at an upper portion thereof.

3. The method according to claim 2, wherein said introducing said flowable material comprises:

substantially filling said at least one cavity.

4. (Amended) The method according to claim 3, wherein said substantially filling said at least one cavity comprises:

introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

5. The method according to claim 2, wherein said positioning said at least one substrate further comprises:

positioning said at least one substrate substantially vertically.

6. (Amended) The method according to claim 5, wherein said introducing said flowable material comprises:
filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

7. The method according to claim 6, wherein said filling said at least one cavity with said flowable material comprises:
encapsulating said at least one substrate.

8. The method according to claim 1, wherein said introducing said flowable material in said substantially vertical direction comprises:
inducing a substantially uniform flow front.

9. The method according to claim 1, wherein said introducing said flowable material comprises introducing said flowable material onto a substantially vertically oriented surface of said at least one substrate.

10. (Amended) The method according to claim 1, wherein said introducing said flowable material onto said at least one surface of said at least one substrate in said substantially vertical direction comprises:
substantially preventing voids in said flowable material.

11. The method according to claim 1, wherein said providing said at least one substrate comprises:
providing an assembly including said at least one substrate.

12. (Amended) The method according to claim 11, wherein said providing said assembly comprises:
providing said assembly including at least one semiconductor die and a lead frame.

13. (Amended) The method according to claim 11, wherein said providing said assembly comprises:

providing said assembly with said at least one substrate comprising at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

14. The method according to claim 13, wherein said providing said assembly comprises:

providing said assembly with said at least one semiconductor die spaced apart from said carrier.

15. (Amended) The method according to claim 14, wherein said introducing said flowable material comprises:

introducing said flowable material between said at least one semiconductor die and said carrier.

16. The method according to claim 1, wherein said providing said at least one substrate comprises:

providing at least one individual semiconductor die.

17. (Amended) The method according to claim 16, wherein said providing said at least one individual semiconductor die comprises:

providing said at least one individual semiconductor die with conductive structures protruding therefrom.

18. (Amended) The method according to claim 17, wherein said providing said at least one individual semiconductor die comprises:

providing a large-scale substrate including a plurality of semiconductor devices.

19. (Amended) The method according to claim 18, wherein said providing said large-scale substrate comprises:

providing said large-scale substrate with said conductive structures protruding from bond pads of said plurality of semiconductor devices.

20. The method according to claim 18, wherein said providing said large-scale substrate comprises:

providing at least a portion of a wafer.

21. (Amended) The method according to claim 1, wherein said introducing said flowable material includes capillary action acting on said flowable material.

22. (Amended) The method according to claim 1, wherein said introducing said flowable material includes positive pressure acting on said flowable material.

23. (Amended) The method according to claim 1, wherein said introducing said flowable material includes negative pressure acting on said flowable material.

24. The method according to claim 2, wherein at least a portion of said at least one cavity prevents said flowable material from covering bond pads of said at least one substrate.

25. The method according to claim 2, wherein said at least one cavity includes a cavity at least partially receiving conductive structures protruding from said at least one substrate and at least partially prevents said flowable material from covering said conductive structures.

26. A method of molding a semiconductor assembly in a mold cavity of a transfer mold comprising:

providing at least one substrate having at least one surface in said mold cavity; and introducing a flowable material onto said at least one surface of said at least one substrate in an upward, substantially vertical direction in said mold cavity.

27. (Amended) The method according to claim 26, further comprising:
positioning said at least one substrate in at least one cavity of said transfer mold, said transfer mold being configured with said at least one cavity substantially vertically oriented, said transfer mold including at least one gate at a lower portion of said at least one cavity and at least one vent at an upper portion thereof.

28. The method according to claim 27, wherein said introducing said flowable material comprises:
substantially filling said at least one cavity.

29. (Amended) The method according to claim 28, wherein said substantially filling said at least one cavity comprises:
introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

30. The method according to claim 27, wherein said positioning said at least one substrate further comprises:
positioning said at least one substrate substantially vertically.

31. (Amended) The method according to claim 30, wherein said introducing said flowable material comprises:
filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

32. The method according to claim 31, wherein said filling said at least one cavity with said flowable material comprises:
encapsulating said at least one substrate.

33. (Amended) The method according to claim 26, wherein said introducing said flowable material in said upward, substantially vertical direction comprises:
inducing a substantially uniform flow front.

34. (Amended) The method according to claim 26, wherein said introducing said flowable material comprises said flowable material to flow substantially across said at least one surface of said at least one substrate.

35. (Amended) The method according to claim 26, wherein said introducing said flowable material onto said at least one surface of said at least one substrate in said upward, substantially vertical direction comprises substantially preventing voids in said flowable material.

36. The method according to claim 26, wherein said providing said at least one substrate comprises:
providing an assembly including said at least one substrate.

37. (Amended) The method according to claim 36, wherein said providing said assembly comprises:
providing said assembly including at least one semiconductor die and a lead frame.

38. (Amended) The method according to claim 36, wherein said providing said assembly comprises:

providing said assembly with said at least one substrate including at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

39. The method according to claim 38, wherein said providing said assembly comprises:

providing said assembly with said at least one semiconductor die being spaced apart from said carrier.

40. (Amended) The method according to claim 39, wherein said introducing said flowable material comprises:

introducing said flowable material between said at least one semiconductor die and said carrier.

41. The method according to claim 26, wherein said providing said at least one substrate comprises:

providing at least one individual semiconductor die.

42. (Amended) The method according to claim 41, wherein said providing said at least one individual semiconductor die comprises:

providing said at least one individual semiconductor die with conductive structures protruding therefrom.

43. (Amended) The method according to claim 42, wherein said providing said at least one individual semiconductor die comprises:

providing a large-scale substrate including a plurality of semiconductor devices.

44. (Amended) The method according to claim 43, wherein said providing said large-scale substrate comprises:

providing said large-scale substrate having said conductive structures protruding from bond pads of said plurality of semiconductor devices.

45. The method according to claim 44, wherein said providing said large-scale substrate comprises:
providing at least a portion of a wafer.

46. (Amended) The method according to claim 26, wherein said introducing said flowable material includes capillary action on said flowable material.

47. (Amended) The method according to claim 26, wherein said introducing said flowable material includes positive pressure on said flowable material.

48. (Amended) The method according to claim 26, wherein said introducing said flowable material includes negative pressure on said flowable material.

49. The method according to claim 27, wherein said at least one cavity includes a portion preventing said flowable material from covering bond pads of said at least one substrate.

50. The method according to claim 27, wherein said at least one cavity includes at least a portion thereof partially receiving conductive structures protruding from said at least one substrate and partially preventing said flowable material from covering said conductive structures.

51. (Amended) A method for encapsulating a substrate in a transfer mold having at least one cavity, the method comprising:
providing at least one substrate; and

introducing a flowable material onto at least one surface of said at least one substrate in an upward, non-horizontal direction in said at least one cavity.

52. The method according to claim 51, further comprising:
positioning said at least one substrate in said at least one cavity of said transfer mold, said transfer mold having said at least one cavity non-horizontally oriented and including at least one gate at a lower portion of said at least one cavity and at least one vent at an upper portion thereof.

53. The method according to claim 52, wherein said introducing said flowable material comprises:
substantially filling said at least one cavity.

54. (Amended) The method according to claim 53, wherein said substantially filling said at least one cavity comprises:
introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

55. The method according to claim 52, wherein said positioning said at least one substrate further comprises:
positioning said at least one substrate substantially vertically.

56. (Amended) The method according to claim 55, wherein said introducing said flowable material comprises:
filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

57. The method according to claim 56, wherein said filling said at least one cavity with said flowable material comprises:
encapsulating said at least one substrate.

58. (Amended) The method according to claim 51, wherein said introducing said flowable material in said upward, non-horizontal direction comprises:
inducing a substantially uniform flow front.

59. (Amended) The method according to claim 51, wherein said introducing said flowable material comprises permitting said flowable material to flow onto a substantially vertically oriented surface of said at least one substrate.

60. (Amended) The method according to claim 51, wherein said introducing said flowable material onto at least one surface of said at least one substrate in said upward, non-horizontal direction comprises:
substantially preventing voids in said flowable material.

61. The method according to claim 51, wherein said providing said at least one substrate comprises:
providing an assembly including said at least one substrate.

62. (Amended) The method according to claim 61, wherein said providing said assembly comprises:
providing said assembly including at least one semiconductor die and a lead frame.

63. (Amended) The method according to claim 61, wherein said providing said assembly comprises:

providing said assembly with said at least one substrate including at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

64. The method according to claim 63, wherein said providing said assembly comprises:

providing said assembly with said at least one semiconductor die being spaced apart from said carrier.

65. (Amended) The method according to claim 64, wherein said flowable material flows between said at least one semiconductor die and said carrier.

66. The method according to claim 51, wherein said providing said at least one substrate comprises:

providing at least one individual semiconductor die.

67. (Amended) The method according to claim 66, wherein said providing said at least one individual semiconductor die comprises:

providing said at least one individual semiconductor die with conductive structures protruding therefrom.

68. (Amended) The method according to claim 67, wherein said providing said at least one individual semiconductor die comprises:

providing a large-scale substrate including a plurality of semiconductor devices.

69. (Amended) The method according to claim 68, wherein said providing said large-scale substrate comprises:

providing said large-scale substrate with said conductive structures protruding from bond pads of said plurality of semiconductor devices.

70. The method according to claim 68, wherein said providing said large-scale substrate comprises:

providing at least a portion of a wafer.

71. (Amended) The method according to claim 51, wherein said introducing said flowable material includes capillary action acting on said flowable material.

72. (Amended) The method according to claim 51, wherein said introducing said flowable material includes positive pressure on said flowable material.

73. (Amended) The method according to claim 51, wherein said introducing said flowable material includes negative pressure on said flowable material.

74. The method according to claim 52, wherein said at least one cavity prevents said flowable material from covering bond pads of said at least one substrate.

75. (Amended) The method according to claim 52, wherein a portion of said at least one cavity at least partially receives conductive structures protruding from said at least one substrate and at least partially prevents said flowable material from covering said conductive structures.

76. A method for transfer molding at least one semiconductor device component, the method comprising:

providing at least one transfer mold having at least one cavity, said at least one cavity including at least one gate at a lower portion thereof and at least one vent at an upper portion thereof;

positioning at least one substrate within said at least one cavity; and

introducing a resin material into said at least one cavity through said at least one gate so that said resin material moves upwardly over said at least one substrate in a non-horizontal direction.

77. (Amended) The method according to claim 76, comprising:
removing substantially all gas within said at least one cavity therefrom through said at least one vent during said introducing said resin material.

78. (Amended) The method according to claim 76, wherein said introducing said resin material comprises:
encapsulating said at least one substrate.

79. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:
providing said at least one transfer mold with said at least one cavity being oriented non-horizontally.

80. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:
providing said at least one transfer mold with said at least one cavity being substantially vertically oriented.

81. (Amended) The method according to claim 76, wherein said introducing said resin material includes a single, substantially uniform flow front around said at least one substrate.

82. (Amended) The method according to claim 76, wherein said introducing said resin material includes introducing said resin material until a single, substantially

uniform flow front of said resin material contacts said at least one vent at said upper portion of said at least one cavity.

83. (Amended) The method according to claim 76, wherein said positioning said at least one substrate comprises:
providing at least one semiconductor device connected to a lead frame.

84. (Amended) The method according to claim 76, wherein said positioning said at least one substrate comprises:
providing an assembly including a semiconductor device and a carrier comprising one of a carrier substrate and an interposer.

85. (Amended) The method according to claim 84, wherein said providing said assembly comprises:
providing said assembly including a flip-chip type semiconductor device.

86. The method according to claim 84, wherein said providing said assembly comprises:
providing said assembly with said semiconductor device being spaced apart from said carrier.

87. (Amended) The method according to claim 86, wherein said introducing said resin material comprises:
introducing said resin material between said semiconductor device and said carrier.

88. (Amended) The method according to claim 87, wherein said introducing said resin material further comprises:
at least partially encapsulating at least one of said semiconductor device and said carrier.

89. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:

providing said at least one transfer mold having a cavity surface including protrusions disposed against contact pads of said at least one substrate.

90. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:

providing said at least one transfer mold with a cavity surface including recesses therein at least partially receiving conductive structures protruding from said at least one substrate.

91. (Amended) A transfer molding apparatus comprising:

first and second members configured to be assembled with one another;

at least one cavity formed in at least one of said first and second members, said at least one cavity substantially non-horizontally oriented during a transfer molding process;

at least one gate at a lower portion of said at least one cavity; and

at least one vent at an upper portion of said at least one cavity.

92. The apparatus according to claim 91, wherein said at least one cavity comprises a substantially vertically oriented cavity.

93. The apparatus according to claim 91, wherein said at least one cavity includes at least one surface with recesses formed therein, said recesses at least partially receiving conductive structures protruding from a substrate upon positioning of said substrate within said at least one cavity.

94. The apparatus according to claim 91, wherein said at least one cavity includes at least one surface with protrusions disposed against contact pads of a substrate.

95. (Amended) A transfer molding apparatus comprising:
first and second members to be assembled with one another;
at least one cavity formed in at least one of said first and second members, said at least one cavity oriented substantially vertically for a transfer molding process;
at least one gate at a lower portion of said at least one cavity; and
at least one vent at an upper portion of said at least one cavity.

96. (Amended) The apparatus according to claim 95, wherein said at least one cavity includes a substantially vertical flow of a molding material during said transfer molding process.

97. The apparatus according to claim 95, wherein said at least one cavity includes at least one surface with recesses formed therein, said recesses including portions receiving conductive structures protruding from a substrate upon positioning of said substrate within said at least one cavity.

98. The apparatus according to claim 95, wherein said at least one cavity includes at least one surface with protrusions for engaging portions of contact pads of a substrate.

APPENDIX D

(MARKED-UP VERSION OF CLAIMS)

(Serial No. 09/652,503)

APPENDIX D

Version of Claims with markings to show changes made

1. (Amended) A method of molding a semiconductor assembly in a mold cavity of a transfer mold comprising:

providing at least one substrate having at least one surface in said mold cavity; and

introducing a flowable material onto said at least one surface of said at least one substrate in a[n] substantially vertical direction in said mold cavity.

2. (Amended) The method according to claim 1, further comprising:

positioning said at least one substrate in at least one cavity of [a]said transfer mold, said transfer mold having said at least one cavity substantially vertically oriented, said transfer mold including at least one gate at a lower portion of said at least one cavity and at least one vent at an upper portion thereof.

4. (Amended) The method according to claim 3, wherein said substantially filling said at least one cavity comprises:

introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

6. (Amended) The method according to claim 5, wherein said [providing]introducing said flowable material comprises:

filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

10. (Amended) The method according to claim 1, wherein said introducing said flowable material onto said at least one surface of said at least one substrate in said substantially vertical direction comprises:

substantially preventing voids in said flowable material.

12. (Amended) The method according to claim 11, wherein said providing said assembly comprises:

providing [an]said assembly including at least one semiconductor die and a lead frame.

13. (Amended) The method according to claim 11, wherein said providing said assembly comprises:

providing [an]said assembly with said at least one substrate comprising at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

15. (Amended) The method according to claim 14, wherein said introducing said flowable material comprises:

introducing said flowable material between said at least one semiconductor die and said carrier.

17. (Amended) The method according to claim 16, wherein said providing said at least one individual semiconductor die comprises:

providing said at least one individual semiconductor die with conductive [structure] structures protruding therefrom.

18. (Amended) The method according to claim [1] 17, wherein said providing said at least one individual semiconductor die comprises:

providing a large-scale substrate including a plurality of semiconductor devices.

19. (Amended) The method according to claim 18, wherein said providing said large-scale substrate comprises:

providing said large-scale substrate with said conductive structures protruding from bond pads of said plurality of semiconductor devices.

21. (Amended) The method according to claim 1, wherein said introducing said flowable material includes capillary action acting on said flowable material.

22. (Amended) The method according to claim 1, wherein said introducing said flowable material includes positive pressure acting on said flowable material.[.]

23. (Amended) The method according to claim 1, wherein said introducing said flowable material includes negative pressure acting on said flowable material.

27. (Amended) The method according to claim 26, further comprising:
positioning said at least one substrate in at least one cavity of [a]said transfer mold, said transfer mold being configured with said at least one cavity substantially vertically oriented, said transfer mold including at least one gate at a lower portion of said at least one cavity and at least one vent at an upper portion thereof.

29. (Amended) The method according to claim 28, wherein said substantially filling said at least one cavity comprises:
introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

31. (Amended) The method according to claim 30, wherein said [providing] introducing said flowable material comprises:
filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

33. (Amended) The method according to claim 26, wherein said introducing said flowable material in said [non-horizontal] upward, substantially vertical direction comprises:
inducing a substantially uniform flow front.

34. (Amended) The method according to claim 26, wherein said introducing said flowable material [flows] comprises said flowable material to flow substantially across said at least one surface of said at least one substrate.

35. (Amended) The method according to claim 26, wherein said introducing said flowable material onto said at least one surface of said at least one substrate in said [non-horizontal] upward, substantially vertical direction comprises substantially preventing voids in said flowable material.

37. (Amended) The method according to claim 36, wherein said providing said assembly comprises:
providing [an] said assembly including at least one semiconductor die and a lead frame.

38. (Amended) The method according to claim 36, wherein said providing said assembly comprises:
providing [an] said assembly with said at least one substrate including at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

40. (Amended) The method according to claim 39, wherein said introducing said flowable material comprises:
introducing said flowable material between said at least one semiconductor die and said carrier.

42. (Amended) The method according to claim 41, wherein said providing said at least one individual semiconductor die comprises:
providing said at least one individual semiconductor die with conductive [structure] structures protruding therefrom.

43. (Amended) The method according to claim [26] 42, wherein said providing said at least one individual semiconductor die comprises:
providing a large-scale substrate including a plurality of semiconductor devices.

44. (Amended) The method according to claim 43, wherein said providing said large-scale substrate comprises:

providing said large-scale substrate having said conductive structures protruding from bond pads of said plurality of semiconductor devices.

46. (Amended) The method according to claim 26, wherein said introducing said flowable material includes capillary action on said flowable material.

47. (Amended) The method according to claim 26, wherein said introducing said flowable material includes positive pressure on said flowable material.

48. (Amended) The method according to claim 26, wherein said introducing said flowable material includes negative pressure on said flowable material.

51. (Amended) A [molding] method for encapsulating a substrate in a transfer mold having at least one cavity, the method comprising:

providing at least one substrate; and

introducing a flowable material onto at least one surface of said at least one substrate in an upward, non-horizontal direction in said at least one cavity.

54. (Amended) The method according to claim 53, wherein said substantially filling said at least one cavity comprises:

introducing said flowable material through said at least one gate until a single flow front of said flowable material contacts said at least one vent at said upper portion of said at least one cavity.

56. (Amended) The method according to claim 55, wherein said [providing] introducing said flowable material comprises:

filling said at least one cavity until a single flow front of said flowable material contacts said at least one vent.

58. (Amended) The method according to claim 51, wherein said introducing said flowable material in said upward, non-horizontal direction comprises:
inducing a substantially uniform flow front.

59. (Amended) The method according to claim 51, wherein said introducing said flowable material [flows] comprises permitting said flowable material to flow onto a substantially vertically oriented surface of said at least one substrate.

60. (Amended) The method according to claim 51, wherein said introducing said flowable material onto at least one surface of said at least one substrate in said upward, non-horizontal direction comprises:
substantially preventing voids in said flowable material.

62. (Amended) The method according to claim 61, wherein said providing said assembly comprises:
providing [an] said assembly including at least one semiconductor die and a lead frame.

63. (Amended) The method according to claim 61, wherein said providing said assembly comprises:
providing [an] said assembly with said at least one substrate including at least one semiconductor die, said at least one semiconductor die being connected to a carrier including one of a carrier substrate and an interposer.

65. (Amended) The method according to claim [61] 64, wherein said flowable material flows between said at least one semiconductor die and said carrier.

67. (Amended) The method according to claim 66, wherein said providing said at least one individual semiconductor die comprises:
providing said at least one individual semiconductor die with conductive [structure] structures protruding therefrom.

68. (Amended) The method according to claim [51] 67, wherein said providing said at least one individual semiconductor die comprises:
providing a large-scale substrate including a plurality of semiconductor devices.

69. (Amended) The method according to claim 68, wherein said providing said large-scale substrate comprises:
providing said large-scale substrate with said conductive structures protruding from bond pads of said plurality of semiconductor devices.

71. (Amended) The method according to claim 51, wherein said introducing said flowable material includes capillary action acting on said flowable material.

72. (Amended) The method according to claim 51, wherein said introducing said flowable material includes positive pressure on said flowable material.

73. (Amended) The method according to claim 51, wherein said introducing said flowable material includes negative pressure on said flowable material.

75. (Amended) The method according to claim 52, wherein a portion of said at least one cavity at least partially receives conductive structures protruding from said at least one substrate and at least partially prevents said flowable material from covering said conductive structures.

77. (Amended) The method according to claim 76, comprising:
removing substantially all gas within said at least one cavity therefrom through said at least one vent during said introducing said resin material.

78. (Amended) The method according to claim 76, wherein said introducing said resin material comprises:
encapsulating said at least one substrate.

79. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:

providing [a] said at least one transfer mold with said at least one cavity being oriented non-horizontally.

80. (Amended) The method according to claim [29] 76, wherein said providing said at least one transfer mold comprises:

providing said at least one transfer mold with said at least one cavity being substantially vertically oriented.

81. (Amended) The method according to claim 76, wherein said introducing said resin material includes a single, substantially uniform flow front around said at least one substrate.

82. (Amended) The method according to claim 76, wherein said introducing said resin material includes introducing [flowable] said resin material until a single, substantially uniform flow front of said resin material [contacting] contacts said at least one vent at [an] said upper portion of said at least one cavity.

83. (Amended) The method according to claim 76, wherein said [providing] positioning said at least one substrate comprises:

providing at least one semiconductor device connected to a lead frame.

84. (Amended) The method according to claim 76, wherein said [providing] positioning said at least one substrate comprises:

providing an assembly including a semiconductor device and a carrier comprising one of a carrier substrate and an interposer.

85. (Amended) The method according to claim 84, wherein said providing said assembly comprises:

providing [an] said assembly including a flip[ ]-chip type semiconductor device.

87. (Amended) The method according to claim 86, wherein said introducing said resin material comprises:

introducing said resin material between said semiconductor device and said carrier.

88. (Amended) The method according to claim [37] 87, wherein said introducing said resin material further comprises:

at least partially encapsulating at least one of said semiconductor device and said carrier.

89. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:

providing said at least one transfer mold having a cavity surface including protrusions disposed against contact pads of said at least one substrate.

90. (Amended) The method according to claim 76, wherein said providing said at least one transfer mold comprises:

providing said at least one transfer mold with a cavity surface including recesses therein at least partially receiving conductive structures protruding from said at least one substrate.

91. (Amended) A transfer molding apparatus comprising:

first and second members configured to be assembled with one another;

at least one cavity formed in at least one of said first and second members, said at least one cavity substantially non-horizontally oriented during a transfer molding process;

at least one gate at a lower portion of said at least one cavity; and

at least one vent at an upper portion of said at least one cavity.

95. (Amended) A transfer molding apparatus comprising:

first and second members to be assembled with one another;

at least one cavity formed in at least one of said first and second members, said at least one cavity oriented substantially vertically for a transfer molding process;

at least one gate at a lower portion of said at least one cavity; and

at least one vent at an upper portion of said at least one cavity.

96. (Amended) The apparatus according to claim 95, wherein said at least one cavity includes a [substantial] substantially [vertical] vertically flow of a molding material during [a] said transfer molding process.